

1. A snowboard binding mechanism for securing a cleat of a snowboard boot to a snowboard, comprising:  
an inside main body adapted to be affixed to a top surface of the snowboard and an outside main body adapted to be affixed to a top surface of the snowboard, said inside and outside main bodies being adapted to secure first and second ends of a cleat, respectively, said inside main body comprising a top surface and an inside first cleat receptor including an inside cleat receiving groove defined on a lower portion thereof facing said outside main body;

said outside main body comprising an outside first cleat receptor having a latch recess formed therein facing said inside main body;

a latch pivotally mounted to said latch recess, said latch including an outside cleat receiving groove disposed across from and facing said inside cleat receiving groove;

a handle pivotally mounted to said outside main body and interlocked with said latch;

said latch being pivoted to a release position in response to pivoting said handle to a first position wherein said outside cleat receiving groove is moved in a direction away from said inside cleat receiving groove, said latch being pivoted to a fasten position in response to pivoting said handle to a second position wherein said outside cleat receiving groove is moved in a direction toward said inside cleat receiving groove thereby securing a cleat placed between said inside and outside cleat receiving grooves.

2. A snowboard binding mechanism as in claim 1, further comprising a cam mounted on said handle to pivot with said handle, ~~said cam including a cam pin and wherein~~

~~said latch further comprises a cam groove formed in a side thereof to receive said cam pin, such that pivoting said cam with said handle causes said cam pin to pivot said latch.~~

5  
3. A snowboard binding mechanism as in claim 2, wherein:

10  
said first outside receptor further includes a first wall and a second wall forming said latch recess and a latch pin extending between said first and second walls, said latch being pivotally supported on said latch pin;

15  
said first wall including a cam support which pivotally supports said cam; and

20  
said cam having a center of rotation parallel to a longitudinal axis of said latch pin.

25  
4. A snowboard binding mechanism as in claim 1, further comprising a hook rotatably mounted on said handle, and a tab mounted on said outside main body, wherein when said handle is in said second position, said hook is releasably secured to said tab, thereby maintaining said handle in said second position.

30  
5. A snowboard binding as in claim 4, wherein said hook further comprises a groove adapted to engage said tab.

6. A snowboard binding mechanism as in claim 4, wherein said hook further comprises cord attachment means for affixing a pull cord to said hook operable to release said hook from said tab.

7. A snowboard binding mechanism as in claim 1, wherein ~~said inside main body is shorter than said outside~~

~~main body in a direction normal to the top surface of the~~  
snowboard such that a snowboard rider may rest a snowboard  
boot on said top surface of said inside main body and slide  
the boot in a direction parallel to the top surface of the  
snowboard against said outside main body, thereby  
positioning the boot in the proper location to secure a  
cleat mounted therein with said binding mechanism.

8. A snowboard binding mechanism as in claim 1,  
wherein:

said inside main body further comprises a second  
inside cleat receptor including a second inside cleat  
receiving groove defined on a lower portion thereof and  
facing said outside main body;

said outside main body further comprises a second  
outside cleat receptor including a second latch recess  
formed therein and facing said inside main body, a second  
latch pivotally mounted to said second latch recess, said  
second latch including a second outside cleat receiving  
groove disposed across from and facing said second inside  
cleat receiving groove;

wherein said handle is interlocked with said second  
latch;

wherein said second latch is pivoted to a release  
position in response to pivoting said handle to said first  
position wherein said second outside cleat receiving groove  
is moved in a direction away from said second inside cleat  
receiving groove, and said second latch is pivoted to a  
fasten position in response to pivoting said handle to said  
second position wherein said second outside cleat receiving  
groove is moved in a direction toward said second inside  
cleat receiving groove thereby securing a second cleat

~~placed between said inside and outside cleat receiving grooves.~~

5 9. A snowboard binding mechanism as in claim 1, wherein said inside first cleat receptor further comprises a receptor bevel on a top surface of said inside first cleat receptor, said receptor bevel being arranged to guide a cleat end into engagement by said inside first cleat receptor.

10 10. A snowboard binding mechanism as in claim 8, wherein said inside first and second cleat receptors further comprise a receptor bevel on a top surface of each of said inside cleat receptors, respectively, said receptor bevels being arranged to guide cleat ends into engagement by said inside first and second cleat receptors.

15 11. A snowboard binding mechanism as in claim 1, further comprising affixing means for affixing said inside main body and said outside main body to the snowboard, said fixing means including longitudinal adjustment means for adjusting the position of at least one of said inside and outside main bodies in a direction along a longitudinal axis of the snowboard.

20 12. A snowboard binding mechanism as in claim 11, wherein said longitudinal adjustment means allows adjustment of the position of both of said inside and outside main bodies in a direction along the longitudinal axis of the snowboard.

25 13. A snowboard binding mechanism as in claim 12, wherein said affixing means includes a first affixing plate

~~and said longitudinal adjustment means includes an elongated hole in said affixing plate adapted to receive a bolt to fasten said affixing plate to the snowboard.~~

5           14. A snowboard binding as in claim 13, wherein said first affixing plate is arranged to affix said inside main body to the snowboard, and wherein said affixing means further includes a second affixing plate for said outside main body.

10           15. A snowboard binding mechanism as in claim 1, further comprising affixing means for affixing said inside main body and said outside main body to the snowboard, said affixing means including angular adjustment means for  
15           adjusting the angular orientation of at least one of said inside and outside main bodies relative to a longitudinal axis of the snowboard.

20           16. A snowboard mechanism as in claim 15, wherein said angular adjustment means allows adjustment of the angular orientation of both of said inside and outside main bodies relative to the longitudinal axis of the snowboard.

25           17. A snowboard binding mechanism as in claim 16, wherein said affixing means includes an inside affixing plate including a first arcuate engagement portion, said inside main body including an inside arcuate engagement portion to be engaged by said first arcuate engagement portion, and wherein said affixing means further includes  
30           an outside affixing plate including a second arcuate engagement portion, said outside main body including an outside arcuate engagement portion to be engaged by said second arcuate engagement portion.

18. A snowboard binding mechanism as in claim 17,  
wherein said inside affixing plate further includes an  
extension portion to extend said inside arcuate engagement  
portion to increase the range of adjustment of the angular  
orientation of said inside main body.

19. A snowboard binding mechanism as in claim 17,  
wherein said outside affixing plate further includes an  
extension portion to extend said outside arcuate engagement  
portion to increase the range of adjustment of the angular  
orientation of said inside main body.

20. A snowboard binding mechanism as in claim 1,  
wherein said inside and outside cleat receiving grooves  
secure a cleat in a position out of contact with the top  
surface of the snowboard.

21. A snowboard mechanism as in claim 8, wherein said  
inside and outside main bodies secure first and second  
cleats out of contact with the top surface of the  
snowboard.

22. A snowboard binding mechanism as in claim 8,  
further comprising:

a first cleat having a first end adapted to be secured  
by said inside first cleat receptor and a second end  
adapted to be secured by said outside first cleat receptor;

a second cleat having a first end adapted to be  
secured by said inside second cleat receptor and a second  
end adapted to be secured by said outside second cleat  
receptor.

23. A snowboard binding mechanism as in claim 22,  
further comprising a boot including an outsole, said  
outsole including a bottom surface and a recess formed  
therein, wherein said first and second cleats are affixed  
to said boot within said recess such that said cleats are  
farther from the snowboard than said outsole bottom  
surface.

24. A snowboard binding mechanism as in claim 23,  
wherein said first cleat is affixed to a rear side of said  
recess, said second cleat is affixed to a forward side of  
said recess, and wherein said inside and outside main  
bodies secure said cleats in such a manner that the  
longitudinal axis of said boot is generally transverse to  
the longitudinal axis of the snowboard.

25. A snowboard binding mechanism as in claim 24,  
wherein said boot has a ball width measured at the ball of  
said boot in a direction transverse to a longitudinal axis  
of said boot, wherein said first and second cleats have a  
cleat width measured transverse to the longitudinal axis of  
said boot, and wherein said cleat width is less than said  
ball width.

26. A snowboard binding mechanism as in claim 25,  
wherein said boot has a heel width measured at the heel of  
said boot in a direction transverse to said longitudinal  
axis of said boot, and wherein said cleat width is less  
than said heel width.

27. A snowboard binding mechanism as in claim 3  
wherein a line extending from said center of rotation of

~~said cam to said longitudinal axis of said latch pin is~~  
generally normal to a top surface of the snowboard.

5 28. A snowboard binding mechanism for securing a  
cleat of a snowboard boot to a snowboard, comprising:

a main body adapted to be affixed to a top surface of  
the snowboard, said main body comprising a plurality of  
inside hooks, a plurality of outside hooks and a latch;

10 wherein said inside hooks are adapted to engage with  
and hold a first side of a cleat, said outside hooks are  
adapted to engage with and hold a second side of a cleat,  
15 said inside and outside hooks are oriented to engage with a  
cleat which is inserted on said main body in a first  
direction from said inside hooks toward said outside hooks,  
and said latch is adapted to engage the cleat against  
moving in a direction opposite said first direction.

20 29. A snowboard binding mechanism as in claim 28,  
further comprising guiding means for guiding said cleat in  
a second direction transverse to said first direction to  
the proper location for engagement with said main body.

25 30. A snowboard binding mechanism as in claim 29,  
wherein said guiding means includes a top surface of said  
main body and forward and rear edges of said top surface  
arranged such that a portion of said cleat engages said  
front and rear edges as said cleat is lowered onto said  
30 main body thereby guiding said cleat with respect to said  
main body.



31. A snowboard binding mechanism as in claim 30, wherein:

said inside hooks of said main body are lower than said top surface of said main body, said outside hooks of said main body are higher than said top surface of said main body, such that a portion of said cleat may be placed on said top surface of said main body and then slid in said first direction until said cleat is engaged with said inside hooks and said outside hooks.

32. A snowboard binding mechanism as in claim 31, further comprising a latch axle and a latch spring mounted on said main body, wherein said latch is mounted on said latch axle to be movable relative to said main body between a release position allowing said cleat to be disengaged from said main body and a secure position wherein said latch is engaged with said cleat thereby maintaining the engagement of said cleat with said main body, wherein said spring biases said latch towards said secure position.

33. A snowboard binding mechanism as in claim 32, wherein said latch includes a latch hook which is engaged with said cleat when said latch is in said secure position.

34. A snowboard binding mechanism as in claim 33, wherein said latch is adapted to be between said engaged cleat and the snowboard, and wherein said latch hook is adapted to engage said cleat from the side of the cleat facing the snowboard.

35. A snowboard binding mechanism as in claim 32, wherein said latch further includes a cord attachment means

~~for affixing a pull cord to said latch operable to move  
said latch to said release position.~~

5 36. A snowboard binding mechanism as in claim 28,  
further comprising a fixing plate including an outer  
periphery and a groove in said outer periphery, wherein  
said main body includes a bottom plate, said bottom plate  
including a mounting edge, wherein said fixing plate groove  
is adapted to be affixed to the top surface of the  
10 snowboard such that said groove engages said mounting edge  
of said bottom plate, thereby securing said main body to  
the snowboard.

15 37. A snowboard binding mechanism as in claim 36,  
wherein said fixing plate groove and said mounting edge  
each form at least a portion of a circle so as to permit  
said main body to be affixed at varying angles relative to  
the longitudinal axis of the snowboard.

20 38. A snowboard binding mechanism as in claim 37,  
wherein said fixing plate includes a plurality of elongated  
holes through which the fixing plate may be fastened to the  
snowboard so as to permit said main body to be affixed at  
varying positions along the longitudinal axis of the  
25 snowboard.

30 39. A snowboard binding mechanism as in claim 33,  
further comprising said cleat, and wherein said cleat has a  
first side to be engaged by said inside hooks, a second  
side to be engaged by said outside hooks, and a latch  
engaging portion to be engaged by said latch hook.

40. ~~A snowboard binding mechanism as in claim 39,~~  
wherein said cleat further includes a forward bevel plate,  
a main plate, and a rear bevel plate, wherein said forward  
and rear bevel plates are angled from said main plate  
toward said main body such that said forward and rear bevel  
plates engage said forward and rear edges of said main body  
as said cleat is lowered onto said main body, thereby  
properly locating said cleat relative to said main body for  
engagement by said main body.

41. A snowboard binding mechanism as in claim 39,  
wherein said cleat further comprises a plurality of inside  
tabs projecting from said cleat main plate towards said  
main body to be engaged by said inside hooks and a  
plurality of outside tabs to be engaged by said outside  
hooks.

42. A snowboard binding mechanism as in claim 40,  
further comprising a boot including an outsole, said  
outsole including a bottom surface and a recess formed  
therein, wherein said cleat is affixed to said boot within  
said recess such that said cleat main plate is farther from  
the snowboard than said bottom surface.

43. A snowboard binding mechanism as in claim 42,  
wherein said boot has a ball width measured at the ball of  
said boot in a direction transverse to a longitudinal axis  
of said boot, wherein said cleat has a cleat width measured  
in a direction transverse to the longitudinal axis of said  
boot, and wherein said cleat width is less than said ball  
width.

5     44. A snowboard binding mechanism as in claim 43,  
wherein said boot has a heel width measured at the heel of  
said boot in a direction transverse to said longitudinal  
axis of said boot, and wherein said cleat width is less  
than said heel width.

10     45. A snowboard binding mechanism as in claim 42,  
wherein said main body secures said cleat in such a manner  
that the longitudinal axis of said boot is generally  
transverse to the longitudinal axis of the snowboard.

15     46. A cleat adapted to be secured by a snowboard  
binding mechanism, comprising:  
a main plate, a forward bevel plate, and a rear bevel  
plate;

20     wherein said forward and rear bevel plates are angled  
away from said main plate in a direction toward a binding  
mechanism, said forward and rear bevel plates being adapted  
to engage a top surface of the binding mechanism as the  
cleat is lowered towards the binding mechanism, thereby  
properly locating said cleat relative to the binding  
mechanism for engagement therewith.

25     47. A cleat as in claim 46, further comprising a  
plurality of first side tabs extending from a first side of  
said main plate toward the binding mechanism, and a  
plurality of second side tabs affixed to a second side of  
said main plate,

30     wherein said main plate is adapted to engage the top  
surface of the binding mechanism and then slide in a  
direction toward said second side tabs, such that said  
first and second side tabs engage with the binding  
mechanism.

*Sub  
B1*

48. A snowboard binding mechanism for securing the cleat of a snowboard boot to a snowboard, comprising:

5 a front main body adapted to be affixed to the snowboard, said front main body including a cleat receiving opening for receiving a front tab of a cleat;

a rear main body adapted to be affixed to the snowboard;

10 a latch pivotally mounted to said rear main body to pivot between an engaged position and a release position, said latch including a notch for receiving a rear tab of a cleat;

a spring mounted on said rear main body, said spring arranged to bias said latch toward said engaged position;

15 said latch being pivotable to said release position allowing release of the rear tab held therein against the bias of said spring.

20 49. A snowboard binding mechanism as in claim 48, further comprising a latch securing means for preventing said latch from pivoting to said release position.

25 50. A snowboard binding mechanism as in claim 49, wherein said latch securing means includes a sliding shaft mounted on said rear main body, said sliding shaft including a head, wherein said sliding shaft is movable between: (a) a secure position wherein said head contacts said latch preventing the latch from pivoting to its release position, and (b) a free position, wherein said head is clear of the range of motion of said latch,

30 allowing said latch to be pivoted to its release position.

*Sub B2*  
51. A snowboard binding mechanism as in claim 50, wherein said latch securing means further includes a hook mounted on said sliding shaft, said hook including a groove, and a tab mounted on said rear main body, wherein when said sliding shaft is in said secure position said groove is engaged with said tab.

52. A snowboard binding mechanism as in claim 51, wherein said hook further includes a cord attaching means for securing a pull cord operable to disengage said groove from said tab.

*Sub B3*  
53. A snowboard binding mechanism as in claim 48, wherein said cleat receiving notch has at least one notch bevel surface for engaging with a bevel surface on said cleat to cause a force to be applied to said notch bevel surface sufficient to overcome the biasing force of said spring, thereby pivoting said latch to said release position.

54. A snowboard binding mechanism as in claim 53, wherein said notch includes first and second notch bevel surfaces on opposite sides of said notch for engaging with respective tab surfaces provided on opposite sides of a cleat tab for pivoting the latch to said release position.

*Sub B4*  
55. A snowboard binding mechanism as in claim 48, further including a latch axle mounted on said rear main body, wherein said latch is pivotally mounted on said latch axle and said spring is mounted on said axle.

56. A snowboard binding mechanism as in claim 55, wherein said spring includes a first arm engaged with said rear main body and a second arm engaged with said latch.

5 57. A snowboard binding mechanism as in claim 55, wherein said latch further includes a latch body forming said notch, and first and second legs extending from said latch body, said first and second legs being mounted on said latch axle.

10 58. A snowboard binding mechanism as in claim 48, wherein said front main body further includes a first wall and a second wall, said first and second walls tapering towards said cleat receiving opening to guide the front tab of the cleat into engagement as the front tab is moved towards said cleat receiving opening.

15 59. A snowboard binding mechanism as in claim 58, wherein said front main body further comprises a retaining bar extending from said first wall to said second wall, wherein said cleat receiving opening is bounded by said first wall, said second wall and said retaining bar.

20 60. A snowboard binding mechanism as in claim 48, further comprising a fixing plate for affixing said front and rear main bodies to the snowboard.

25 61. A snowboard binding mechanism as in claim 60, wherein said fixing plate includes elongated holes through which said fixing plate is secured to the snowboard, thereby allowing adjustment of the position of the front and rear main bodies in a direction along a longitudinal axis of the snowboard.

62. A snowboard binding mechanism as in claim 48, further comprising the cleat, and wherein said front tab is engaged within said cleat receiving opening, said rear tab engaging said notch.

63. A snowboard binding mechanism as in claim 62, wherein said cleat further includes a rear portion and a front portion, said front portion being lower than said rear portion relative to said binding mechanism, wherein said front tab extends from said front portion and said rear tab extends from said rear portion.

64. A snowboard binding mechanism as in claim 63, further comprising a boot including an outsole, said outsole including a bottom surface and a recess formed therein, wherein said cleat is affixed to said boot within said recess such that said cleat is farther from the snowboard than said bottom surface.

65. A snowboard binding mechanism as in claim 64, wherein said recess includes a front bevel on said outsole, said front bevel being arranged to engage said front main body as said boot is lowered onto said binding mechanism thereby guiding said front tab into engagement with said front main body.

66. A snowboard binding mechanism as in claim 65, wherein said front bevel is arcuate.

67. A snowboard binding mechanism as in claim 64, wherein said recess includes a rear bevel on said outsole, said rear bevel being arranged to engage said rear main



body as said boot is lowered onto said binding mechanism thereby guiding said rear tab into engagement with said rear main body.

5           68. A snowboard binding mechanism as in claim 67, wherein said rear bevel is arcuate.

10           69. A snowboard binding mechanism as in claim 64, wherein said binding mechanism engages said cleat so as to maintain a longitudinal axis of said boot generally transverse to a longitudinal axis of the snowboard.

15 *Sub B6* 70. A snowboard binding mechanism as in claim 62, wherein said rear tab has a bevel surface on a bottom portion thereof, said bevel surface being engageable with said latch to force said latch to pivot to said release position as said cleat is lowered against said binding mechanism.

20           71. A snowboard binding mechanism as in claim 62, wherein said latch has a beveled surface on a top portion thereof engageable with said rear tab such that lowering said rear tab against said latch forces said latch to pivot to said release position.

25           72. A snowboard binding mechanism as in claim 62, wherein said latch has a latch bevel on a top portion thereof and said rear tab has a tab bevel on a bottom portion thereof, said latch bevel and tab bevel being engageable to pivot said latch to said release position as  
30 said cleat is lowered against said binding.

73. A snowboard binding mechanism for securing the cleat of a snowboard boot to a snowboard, comprising:

an inside main body adapted to be secured to the snowboard, said inside main body including a first extension and a second extension for engaging a cleat;

an outside main body adapted to be affixed to the snowboard, said outside main body including a first latch and a second latch, said latches being pivotable between an engaged position where they engage a cleat and a release position where they release a cleat;

a spring mounted in said outside main body for biasing said latches to said engaged position.

74. A snowboard binding mechanism as in claim 73, wherein;

said latches each comprise an engaging portion including a bevel surface on a top portion thereof and a bottom surface;

said engaging portion bevel surfaces are adapted to engage with and receive a force from a cleat causing said latches to rotate to said release position allowing a cleat to be engaged with said outside main body, whereupon said spring forces said latches to pivot to said engaged position wherein said engaging portion bottom surface is positioned to secure the cleat.

75. A snowboard binding mechanism as in claim 74, wherein:

said latch engaging portions define a side surface adapted to receive a force caused by rotating an engaged cleat so as to pivot at least one of said latches to said release position.

~~76. A snowboard binding mechanism as in claim 75,~~  
further comprising a first hook and a second hook pivotally  
mounted on said outside main body, each of said hooks  
including a groove;

5        wherein said first latch and said second latch each  
include a tab extending therefrom; and

      wherein when said latches are in said engaged position  
said hook grooves are engaged with said tabs to maintain  
said latches in said engaged position.

10       77. A snowboard binding mechanism as in claim 75,  
wherein each of said hooks further includes a cord  
attachment means for affixing a pull cord to said hooks  
operable to release said grooves from said tabs.

20       78. A snowboard binding mechanism as in claim 73,  
wherein said inside main body has a top bevel surface for  
directing a cleat into engagement with said binding, and  
wherein said outside main body has a top bevel surface for  
directing a cleat into engagement with said binding.

25       79. A snowboard binding mechanism as in claim 78,  
wherein said top surfaces of said inside main body  
extensions are continuous with said inside main body top  
bevel surface, and wherein said bevel surfaces of said  
latch engagement portions are continuous with said top  
bevel surface of said outside main body.

30       80. A snowboard binding mechanism as in claim 78,  
wherein said inside main body top bevel surface is at a  
different angle to the top surface of the snowboard than  
the outside main body top bevel surface.

81. A snowboard binding mechanism as in claim 80,  
wherein said inside main body top bevel surface is at an  
angle of 30 degrees to the top surface of the snowboard and  
said outside main body top bevel surface is at an angle of  
50 degrees to the top surface of the snowboard.

82. A snowboard binding mechanism as in claim 74,  
wherein said outside main body further includes a recess  
open to a forward portion of said outside main body,  
wherein said latches and said spring are mounted inside  
said recess.

83. A snowboard binding mechanism as in claim 82,  
wherein said outside main body further includes a first  
latch axle and a second latch axle mounted in said recess,  
wherein said first and second latches are pivotally mounted  
on said first and second latch axles, respectively, such  
that said engaging portions of said latches extend outside  
said recess.

84. A snowboard binding mechanism as in claim 73,  
further comprising affixing means for securing said inside  
and outside main bodies to the snowboard.

85. A snowboard binding mechanism as in claim 84,  
wherein said affixing means includes longitudinal  
adjustment means for adjusting the position of at least one  
of said inside and outside main bodies along a longitudinal  
axis of the snowboard.

86. A snowboard binding mechanism as in claim 85,  
wherein said longitudinal adjustment means adjusts the

~~position of said inside and outside main bodies along the longitudinal axis of the snowboard.~~

5        87. A snowboard binding mechanism as in claim 84, wherein said affixing means includes angular adjustment means for adjusting the angular orientation of at least one of said inside and outside main bodies relative to a longitudinal axis of the snowboard.

10       88. A snowboard binding mechanism as in claim 87 wherein said angular adjustment means adjusts the angular orientation of said inside and outside main bodies relative to the longitudinal axis of the snowboard.

15       89. A snowboard binding mechanism as in claim 88, wherein said affixing means further includes longitudinal adjustment means for adjusting the position of said inside and outside main bodies along a longitudinal axis of the snowboard.

20       90. A snowboard binding mechanism as in claim 89, wherein said affixing means includes an inside fixing plate for securing said inside main body to the snowboard and an outside fixing plate for securing said outside main body to the snowboard.

25       91. A snowboard binding mechanism as in claim 90, wherein said longitudinal adjustment means includes elongated holes in said inside and outside fixing plates for receiving a bolt to secure said ~~fixing plates to the~~ snowboard.

5        92. ~~A snowboard binding mechanism as in claim 91,~~  
wherein said angular adjustment means includes an arcuate  
engagement groove on said inside fixing plate engageable  
with an arcuate mounting groove on said inside main body,  
and an arcuate engagement groove on said outside fixing  
plate engageable with an arcuate mounting groove on said  
outside main body.

10       93. A snowboard binding mechanism as in claim 75,  
further comprising a cleat including a main body, a first  
inside tab and a second inside tab engageable with said  
first extension and said second extension, respectively,  
and a first outside tab and a second outside tab engageable  
with said first latch and said second latch, respectively,  
15       wherein said inside tabs extend from a first side of said  
main body and said outside tabs extend from a second side  
of said main body.

20       94. A snowboard binding mechanism as in claim 93,  
wherein said cleat further includes a first recess formed  
in said main body adjacent said first outside tab and a  
second recess formed in said main body adjacent said second  
outside tab, wherein said first and second latches engage  
with said first and second recesses when said cleat is  
25       engaged by said outside main body.

30       95. A snowboard binding mechanism as in claim 94,  
wherein said first recess includes a first bevel surface  
engageable with said side surface of said first latch,  
wherein said first side surface transmits a force to said  
side surface of said first latch in response to rotating  
said cleat in a first direction, thereby pivoting said  
first latch to said release position.

96. A snowboard binding mechanism as in claim 95, wherein said second recess includes a second bevel surface engageable with said side surface of said second latch, wherein said second side surface transmits a force to said side surface of said second latch in response to rotating said cleat in a second direction, thereby pivoting said second latch to said release position.

97. A snowboard binding mechanism as in claim 93, further comprising a boot including an outsole, said outsole including a bottom surface and recess formed therein, wherein said cleat is affixed to said boot within said recess such that said cleat main body is farther from the snowboard than said bottom surface.

98. A snowboard binding mechanism as in claim 93, wherein said outsole has a ball width measured at the ball of said boot in a direction transverse to a longitudinal axis of said boot, wherein said cleat has a cleat width measured transverse to the longitudinal axis of the boot, and wherein said cleat width is smaller than said ball width.

99. A snowboard binding mechanism as in claim 98 wherein said outsole has a heel width measured at the heel of said boot in a direction transverse to a longitudinal axis of said boot, wherein said cleat has a cleat width measured transverse to the longitudinal axis of the boot, and wherein said cleat width is smaller than said heel width.

100. A snowboard binding mechanism as in claim 97, wherein said binding mechanism secures said cleat in such a manner that the longitudinal axis of said boot is generally transverse to the longitudinal axis of the snowboard.

101. A snowboard binding mechanism for securing a cleat of a snowboard boot to a snowboard, said mechanism comprising:

a main body plate arranged to be affixed to the snowboard;

a front main body located on the main body plate, said front main body defining a cleat receiving opening for receiving a front tab of the cleat;

a first latch for engaging a rear tab of the cleat, said latch being pivotally mounted with respect to said main body plate to pivot between an engaged position and a release position; and

a first spring for biasing said latch toward said engaged position.

102. A snowboard binding mechanism as in claim 101, further comprising a rear main body located on said main body plate, and an axle supported by said rear main body, said latch being pivotally mounted on said axle.

103. A snowboard binding mechanism as in claim 102, further comprising a release arm for overcoming the bias of said spring to cause said latch to pivot to said release position, said release arm being pivotally connected to said axle, and latch securing means for preventing said latch from pivoting to said release position.



5        ~~104. A snowboard binding mechanism as in claim 103,~~  
wherein said securing means includes a hook mounted on said  
release arm, said hook including a groove, and a pin  
mounted on said main body plate, wherein said groove is  
engageable with said pin to prevent said release arm from  
pivoting to said release position, and wherein said hook  
includes means for securing a pull cord operable to  
disengage said groove from said pin.

10        105. A snowboard binding mechanism as in claim 101,  
wherein said latch includes a top bevel surface adapted to  
be engaged by the rear tab of the cleat as the cleat is  
lowered against said latch, thereby overcoming the bias of  
said spring and pivoting said latch to said release  
15        position to allow the rear tab to be lowered into  
engagement with said latch.

20        106. A snowboard binding mechanism as in claim 101,  
wherein said front main body includes a tapered bevel  
surface for guiding the front tab of the cleat into said  
cleat receiving opening.

25        107. A snowboard binding mechanism as in claim 101,  
further comprising a fixing plate for affixing said main  
body plate to the snowboard, said fixing plate having a  
plurality of holes for securing said mechanism to the  
snowboard, thereby allowing adjustment of the position of  
said mechanism with respect to the snowboard.

30        108. A snowboard binding mechanism as in claim 107,  
wherein said fixing plate is circular and said main body  
plate has a circular opening engageable with said fixing  
plate, whereby the angular orientation of said binding

~~mechanism relative to the longitudinal axis of the snowboard may be adjusted by rotating said main body plate relative to said fixing plate.~~

5           109. A snowboard binding mechanism as in claim 108, wherein said fixing plate has an engaging lip around its periphery, said engaging lip being engaged with said circular opening of said main body plate.

10           110. A snowboard binding mechanism as in claim 101, further comprising a first release handle pivotally supported with respect to said main body plate to pivot between a first position and a second position, said release handle being connected to said latch such that  
15           pivoting said release handle from said first position to said second position causes said latch to pivot from said engaged position to said release position.

20           111. A snowboard binding mechanism as in claim 110, further comprising a rear main body, said latch and said release handle being pivotally connected to said rear main body, said rear main body including a cleat centering leg for centering the cleat with respect to said main body plate.

25           112. A snowboard binding mechanism as in claim 111, wherein said release handle includes a first cam, and wherein said latch includes a first cam slot for receiving said cam, said mechanism being arranged such that pivoting  
30           said release handle causes said cam to move through said cam slot to pivot said latch between said release and engaged positions.

113. A snowboard binding mechanism as in claim 112, further comprising:

5 a second latch for engaging a second rear tab of the cleat, said second latch being pivotable between an engaged position and a release position; and

a second spring for biasing said second latch toward its engaged position.

10 114. A snowboard binding mechanism as in claim 113, further comprising a second release handle pivotable between a first position and a second position, wherein said second release handle is connected to said second latch such that pivoting said second release handle to its second position causes said second latch to pivot to its release position.

15 115. A snowboard binding mechanism as in claim 114, further comprising a second cleat centering leg for guiding the second rear tab to position the cleat with respect to said main body plate.

20 116. A snowboard binding mechanism as in claim 115, wherein said first cleat centering leg includes a first bevel surface and said second cleat centering leg includes a second bevel surface, said first and second bevel surfaces being arranged to position the cleat with respect to said binding mechanism as the cleat is lowered into said binding mechanism.

25 117. A snowboard binding system, comprising:  
a cleat having a front tab and a first rear tab;  
a main body plate arranged to be affixed to a  
30 snowboard;

a front main body located on the main body plate, said front main body defining a cleat receiving opening for receiving said front tab of said cleat;

5 a first latch for engaging said rear tab of said cleat, said latch being pivotally mounted with respect to said main body plate to pivot between an engaged position and a release position; and

a first spring for biasing said latch toward said engaged position.

10 118. A snowboard binding system as in claim 117, wherein said cleat has a resilient pad affixed to a lower surface thereof.

15 119. A snowboard binding system as in claim 117, wherein said cleat includes buckles with strap holes, and wherein said system further includes a strap connected to said strap holes for affixing said cleat to a boot.

20 120. A snowboard binding system as in claim 117, wherein said cleat has a second rear tab, said system further comprising a second pivotable latch for engaging said second rear tab.

25 121. A snowboard binding system as in claim 120, wherein said rear tab includes bevel surfaces, and wherein said system further comprises centering legs for engaging said bevel surfaces to guide said cleat into engagement with said latches, said centering legs being located on  
30 said main body plate.

122. A snowboard binding system as in claim 121, wherein said cleat further includes a rear portion and a

front portion, with said front tab extending from said front portion and said rear tabs extending from said rear portion, said rear tabs being spaced apart from each other, said front portion being lower than said rear portion relative to said main body plate.

123. A snowboard binding mechanism for securing a cleat of a snowboard boot to a snowboard, said cleat being arranged to be affixed to a toe portion and a heel portion of said boot, said cleat including a toe side tab and a heel side tab, said binding mechanism comprising:

first engaged means for engaging said toe side tab of said cleat; and

second engaged means for engaging said heel side tab of said cleat, said second engaged means including:

a latch movable between an engaged position for prohibiting release of said cleat and a release position for permitting release of said cleat; and

a spring for biasing said latch toward said engaged position; and

wherein said first engaged means and said second engaged means are aligned substantially transverse to the longitudinal direction of said snowboard.

124. A snowboard binding mechanism as in claim 123, further comprising latch operating means for pivotally moving said latch between said engaged position and said release position.

125. A snowboard binding mechanism as in claim 124, wherein said latch operating means includes an operation arm and a pivot axle, said axle having a first end

connected to said latch, said axle having a second end connected to said operation arm.

126. A snowboard binding mechanism as in claim 125, wherein said operation arm is arranged to extend over a top surface of said snowboard in a direction that is substantially transverse to said longitudinal direction of said snowboard.

127. A snowboard binding mechanism as in claim 124, wherein said first engaged means defines an opening for receiving said toe side tab of said cleat, and wherein said first engaged means includes a bevel surface for guiding said toe side tab into said opening.

128. A snowboard binding mechanism as in claim 124, wherein said first engaged means is formed of connector members extending substantially perpendicularly from said snowboard, said connector members being spaced apart from each other to receive said toe side tab therebetween.

129. A snowboard binding mechanism as in claim 123, wherein said latch is provided with a top bevel surface for contacting said heel side tab as said cleat descends toward said latch, to thereby rotate said latch to said release position against the biasing force of said spring, with said heel side tab being engaged by said latch as said heel side tab descends further.

130. A snowboard binding mechanism as in claim 123,  
further comprising:

a main body plate, said first engaged means and said  
second engaged means being located on said main body plate;  
and

a fixing plate for securing said main body plate to  
said snowboard and for allowing adjustment of the position  
of said main body plate with respect to said snowboard.

131. A snowboard binding mechanism as in claim 130,  
wherein said fixing plate is provided with a plurality of  
holes for securing said fixing plate to said snowboard and  
for permitting adjustment of the position of said main body  
in the longitudinal direction of said snowboard.

132. A snowboard binding mechanism as in claim 131,  
wherein said fixing plate has a circular portion, said main  
body plate defining a circular opening for receiving said  
circular portion of said fixing plate, said binding  
mechanism being angularly displaceable with respect to the  
longitudinal direction of said snowboard by rotating said  
main body plate with respect to said fixing plate.

133. A snowboard binding mechanism as in claim 132,  
wherein said fixing plate has an engaging portion at its  
outer periphery and said engaging portion engages the  
periphery of said circular opening of said main body plate.

134. A snowboard cleat for securing a boot to a  
snowboard binding mechanism, said binding mechanism  
including an engaged member and a latch, said latch being  
pivotable between an engaged position and a release  
position, said engaged member and said latch being aligned

~~in a direction that is substantially transverse~~ to the longitudinal direction of a snowboard, said cleat comprising:

a toe side tab for engaging said engaged member; and  
a heel side tab for engaging said latch; and

wherein said toe side tab and said heel side tab are spaced apart from each other, and wherein said tabs are arranged so as to not project from said boot.

135. A snowboard cleat as in claim 134, further comprising an elongated rectangular main plate having a front end, and said cleat having a rear end, and wherein said toe side tab extends from said front end and said heel side tab extends from said rear end.

136. A snowboard cleat as in claim 135, wherein said heel side tab is formed as an attachment member attachable to and detachable from said main plate.

137. A snowboard cleat as in claim 135, wherein said main plate has a step so that the distance between said heel side tab and a top surface of said snowboard is greater than the distance between said toe side tab and the top surface of said snowboard.

138. The snowboard cleat of claim 137 in combination with said boot, said boot having a sole with a recess, and wherein said heel side tab, said toe side tab, and said main plate are all placed in said recess and do not project out of said sole in any direction.



139. A binding system for binding a boot to a snowboard, said boot having a sole, said snowboard being elongated in a longitudinal direction, said binding system comprising:

5 a binding mechanism comprising:  
an engaging member; and  
a latch pivotable between an engaged position and a release position; and

10 wherein said engaging member and said latch are aligned substantially transverse to the longitudinal direction of the snowboard; and

a cleat for attachment to the boot sole, said cleat comprising:

15 a toe side tab engageable with said engaging member; and

a heel side tab engageable with said latch; and

20 wherein said toe side tab and said heel side tab are substantially aligned in the longitudinal direction of said boot, said toe side tab and said heel side tab being spaced apart from each other, and wherein said tabs are arranged to be located entirely within the sole of said boot.

25 140. The snowboard binding system of claim 139 in combination with said boot, wherein a recess is formed in a toe area of said sole such that said toe side tab is permitted to move into engagement with said engaging member, and wherein another recess is formed in a heel area of said boot sole for permitting said heel side tab to move  
30 into engagement with said latch.

141. The combination of claim 140, wherein a groove is defined within said sole, said groove having a central

5 ~~portion, said groove extending between said toe area and~~  
said heel area, wherein said cleat includes an elongated  
rectangular main plate having a front end, said cleat  
having a rear end, wherein said toe side tab extends from  
said front end and wherein said heel side tab extends from  
said rear end, said main plate being placed substantially  
in the central portion of said groove.

10 142. The combination of claim 141, wherein said groove  
and said recess are formed in a continuous manner.

15 143. The combination of claim 141, wherein said boot  
sole includes a protruding tread portion, and wherein an  
outer peripheral portion of said cleat is surrounded by  
said protruding tread portion, and said cleat is configured  
so as not to project out of said tread portion.

20 144. The combination of claim 143, wherein said main  
plate is provided with a step such that the distance  
between said heel side tab and said snowboard is greater  
than the distance between said toe side tab and said  
snowboard when said boot is fixed to said snowboard, such  
that said latch is placed in a space formed between said  
heel side tab and a surface of said snowboard.

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